```
* * STN  Columbus  * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 10:59:48 ON 14 OCT 2003

=> file reg
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILE 'REGISTRY' ENTERED AT 11:00:09 ON 14 OCT 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   13 OCT 2003  HIGHEST RN 603932-08-7
DICTIONARY FILE UPDATES:  13 OCT 2003  HIGHEST RN 603932-08-7

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> s 14-22 cr/mac
        205313 14-22/MAC
        276614 CR/MAC
L1       73627 14-22 CR/MAC
                (14-22/MAC (P) CR/MAC)

=> s 4-10 pt/mac
        329018 4-10/MAC
         13042 PT/MAC
L2        2089 4-10 PT/MAC
                (4-10/MAC (P) PT/MAC)

=> s 1-5 ta/mac
        514524 1-5/MAC
         22063 TA/MAC
L3        7960 1-5 TA/MAC
                (1-5/MAC (P) TA/MAC)

=> s 63-81 co/mac
        212438 63-81/MAC
        109921 CO/MAC
L4       10483 63-81 CO/MAC
                (63-81/MAC (P) CO/MAC)

=> s l1 and l2 and l3 and l4
L5          39 L1 AND L2 AND L3 AND L4

=> s 1-5 nb/mac
        514524 1-5/MAC
         69004 NB/MAC
L6       18754 1-5 NB/MAC
                (1-5/MAC (P) NB/MAC)
```

```
=> s l5 and l6
L7            9 L5 AND L6

=> file caplus
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                        22.70      22.91

FILE 'CAPLUS' ENTERED AT 11:02:24 ON 14 OCT 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)
```



```
FILE COVERS 1907 - 14 Oct 2003  VOL 139 ISS 16
FILE LAST UPDATED: 13 Oct 2003  (20031013/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.

=> s l5
L8           24 L5

=> s l7
L9            5 L7

=> d 1-
YOU HAVE REQUESTED DATA FROM 5 ANSWERS - CONTINUE? Y/(N):y

L9   ANSWER 1 OF 5  CAPLUS  COPYRIGHT 2003 ACS on STN
AN   2002:770073  CAPLUS
DN   137:287959
TI   Magnetic recording medium with dual magnetic layers and high in-plane
     coercivity
IN   Chen, Qixu David; Huang, Lin; Leu, Charles; Ranjan, Rajiv Yadav
PA   Seagate Technology, Inc., USA
SO   U.S., 12 pp.
     CODEN: USXXAM
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.         KIND  DATE           APPLICATION NO.  DATE
     ---------------    ----  --------       ---------------  --------
PI   US 6461750          B1   20021008       US 1999-406816   19990928
     US 2003039863       A1   20030227       US 2002-252708   20020924
PRAI US 1998-102573P     P    19980930
     US 1999-406816      A3   19990928
RE.CNT  16    THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9   ANSWER 2 OF 5  CAPLUS  COPYRIGHT 2003 ACS on STN
AN   2002:630296  CAPLUS
```

DN 137:149161
TI Magnetic recording disk for hard disk drive.
IN Lai, Tai-Huang; Luo, Yu-Yun; Tung, Jiun-Yan; Liang, Wei-Jeng; Liang, Hung-Huei
PA Trace Storage Technology Corp., Taiwan
SO Taiwan, 19 pp.
CODEN: TWXXA5
DT Patent
LA Chinese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	TW 392150	B	20000601	TW 1998-87110336	19980626
PRAI	TW 1998-87110336		19980626		

L9 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:716092 CAPLUS
DN 133:275473
TI Fabrication of magnetic recording medium and magnetic recording disk device
IN Okuyama, Chiaki; Sato, Kenji; Yoshida, Yuki; Okamoto, Iwao
PA Fujitsu Ltd., Japan
SO U.S., 20 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6129981	A	20001010	US 1998-187082	19981106
PRAI	JP 1998-39259	A	19980220		

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:274654 CAPLUS
DN 132:302339
TI Magnetic recording media and magnetic disk apparatus
IN Sato, Kenji; Yoshida, Yuki; Okuyama, Tomoaki
PA Fujitsu Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000123345	A2	20000428	JP 1998-298665	19981020
PRAI	JP 1998-298665		19981020		

L9 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1993:522953 CAPLUS
DN 119:122953
TI Cobalt-chromium-platinum alloys for sputtering targets in application of magnetic recording films
IN Kinoshita, Makoto; Ishii, Toshinori; Tamura, Jun; Kishida, Kunio
PA Mitsubishi Materials Corp, Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI JP 05086456 A2 19930406 JP 1991-76575 19910409
PRAI JP 1991-76575 19910409

=> d 1- all
YOU HAVE REQUESTED DATA FROM 5 ANSWERS - CONTINUE? Y/(N):y

L9 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:770073 CAPLUS
DN 137:287959
TI Magnetic recording medium with dual magnetic layers and high in-plane coercivity
IN Chen, Qixu David; Huang, Lin; Leu, Charles; Ranjan, Rajiv Yadav
PA Seagate Technology, Inc., USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM G11B005-66
ICS G11B005-70
NCL 428694000TM
CC 77-8 (Magnetic Phenomena)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6461750	B1	20021008	US 1999-406816	19990928
	US 2003039863	A1	20030227	US 2002-252708	20020924
PRAI	US 1998-102573P	P	19980930		
	US 1999-406816	A3	19990928		

AB A magnetic recording media is formed with high in-plane coercivity employing dual magnetic layers. The 1st magnetic layer is sputter deposited in a chamber employing a shield such that the min. incident angle of impinging atoms is relatively large, e.g., .gtorsim.26.degree.. Embodiments of the present invention comprise depositing a NiAl seed layer, a Cr or Cr alloy underlayer and a 1st CoCrTa magnetic layer at a thickness .ltorsim.50 .ANG. for inducing the preferred (10.0) crystallog. orientation in the subsequently deposited 2nd magnetic layer, e.g., CoCrPtTa or CoCrPtTaNb having a high Cr content of .apprx.16 to .apprx.21 at.%.
ST cobalt chromium platinum tantalum dual layer recording medium coercivity
IT Coercive force (magnetic)
Magnetic multilayers
Magnetic recording materials
Sputtering
(cobalt-chromium alloy magnetic recording medium with dual magnetic layers and high in-plane coercivity)
IT 7440-47-3P, Chromium, uses 12635-27-7P 77325-66-7P 137850-97-6P 238087-04-2P 467233-21-2P **467233-22-3P**
RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cobalt-chromium alloy magnetic recording medium with dual magnetic layers and high in-plane coercivity)
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Akimoto; IEEE Transactions on Magnetics 1998, V34(4), P1
(2) Alex; US 5616218 A 1997 CAPLUS
(3) Bertero; US 6150015 A 2000 CAPLUS
(4) Bian; US 6077586 A 2000 CAPLUS
(5) Bian; US 6143388 A 2000 CAPLUS
(6) Chen; US 5763071 A 1998 CAPLUS
(7) Futamoto; US 6251532 B1 2001 CAPLUS
(8) Lee; US 5693426 A 1997 CAPLUS
(9) Lee; US 5800931 A 1998 CAPLUS
(10) Lee; IEEE Transactions on Magnetics 1994, V30(6), P3951 CAPLUS

(11) Ohkubo; US 5851656 A 1998 CAPLUS
(12) Peng; IEEE Transactions on Magnetics 1995, V31(6), P2821 CAPLUS
(13) Ross; Journal of Applied Physics:Proceedings of the 41st Annual Conference on Magnetism and Magnetic Materials, Part 2A 1997, V81(8) CAPLUS
(14) Song; US 6150016 A 2000 CAPLUS
(15) Zhang; US 5772857 A 1998 CAPLUS
(16) Zhang; US 6077603 A 2000 CAPLUS

L9 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:630296 CAPLUS
DN 137:149161
TI Magnetic recording disk for hard disk drive.
IN Lai, Tai-Huang; Luo, Yu-Yun; Tung, Jiun-Yan; Liang, Wei-Jeng; Liang, Hung-Huei
PA Trace Storage Technology Corp., Taiwan
SO Taiwan, 19 pp.
CODEN: TWXXA5
DT Patent
LA Chinese
IC ICM G11B005-62
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 57
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	TW 392150	B	20000601	TW 1998-87110336	19980626
PRAI	TW 1998-87110336		19980626		

AB The present invention relates to high-coercivity magnetic recording disk used in hard disk drive. The magnetic recording disk comprises a nonmagnetic substrate, a fine grain-structured Ni-Al alloy seed layer (thickness 200-1000 .ANG.) sputtered on the substrate, a Cr-V alloy intermediate layer (thickness 50-1000 .ANG.) sputtered on the seed layer, a Co-Cr-Pt-Ta-Nb alloy magnetic layer (thickness 100-400 .ANG.) sputtered on the intermediate layer, and a carbon protective layer sputtered on the magnetic layer. The nonmagnetic substrate may be made from glass, ceramic, glass ceramic, Al alloy, etc. The Co-Cr-Pt-Ta-Nb alloy magnetic layer-contg. magnetic recording disk has coercivity (Hc) higher than 4000 Oe.
ST magnetic recording disk hard disk drive; coercivity magnetic recording disk hard disk drive; hard magnetic disk coercivity
IT Heating
(IR; magnetic recording disk for hard disk drive)
IT Lubricating oils
(coating; magnetic recording disk for hard disk drive)
IT Coating process
(electroless; magnetic recording disk for hard disk drive)
IT Magnetic disks
(hard; magnetic recording disk for hard disk drive)
IT Coercive force (magnetic)
Magnetic disks
Sputtering
(magnetic recording disk for hard disk drive)
IT Ceramics
Glass ceramics
(substrate; magnetic recording disk for hard disk drive)
IT Glass, uses
RL: DEV (Device component use); USES (Uses)
(substrate; magnetic recording disk for hard disk drive)
IT Aluminum alloy, base
RL: DEV (Device component use); NUU (Other use, unclassified); USES (Uses)
(substrate; magnetic recording disk for hard disk drive)
IT 11104-08-8, Nickel phosphide 12035-46-0, Nickel phosphide (NiP)
RL: TEM (Technical or engineered material use); USES (Uses)
(coating, electroless plated; magnetic recording disk for hard disk

drive)
IT 37283-60-6, Chromium alloy, Cr,V
RL: DEV (Device component use); NUU (Other use, unclassified); USES (Uses)
(intermediate layer; magnetic recording disk for hard disk drive)
IT 238087-04-2, Cobalt alloy, Co,Cr,Nb,Pt,Ta **297178-07-5**
444725-28-4
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(magnetic recording disk for hard disk drive)
IT 7440-44-0, Carbon, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(protective coating; magnetic recording disk for hard disk drive)
IT 12635-29-9, Nickel alloy, Ni,Al
RL: DEV (Device component use); USES (Uses)
(seed layer; magnetic recording disk for hard disk drive)
IT 11145-10-1, Aluminum alloy, Al,Mg
RL: DEV (Device component use); NUU (Other use, unclassified); USES (Uses)
(substrate; magnetic recording disk for hard disk drive)

L9 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:716092 CAPLUS
DN 133:275473
TI Fabrication of magnetic recording medium and magnetic recording disk device
IN Okuyama, Chiaki; Sato, Kenji; Yoshida, Yuki; Okamoto, Iwao
PA Fujitsu Ltd., Japan
SO U.S., 20 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM G11B005-66
NCL 428332000
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 56
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6129981	A	20001010	US 1998-187082	19981106
PRAI	JP 1998-39259	A	19980220		

AB A magnetic recording medium and a magnetic disk device fabrication is presented. The magnetic recording medium comprising a nonmagnetic substrate having applied thereon, through a chromium-based underlayer, at least one magnetic recording layer consisting of cobalt as a principal component, 14 to 23 at % of chromium, 1 to 20 at % of platinum as well as tungsten and carbon. The magnetic recording medium exhibits reduced noise, an improved resoln. of the reproducing waveforms and an increased S/N ratio.
ST magnetic recording medium disk device fabrication
IT Magnets
(circuits; in fabrication of magnetic recording medium and magnetic recording disk device)
IT Magnetic disks
(fabrication of)
IT Magnetic recording heads
Magnetic recording materials
(fabrication of magnetic recording medium and magnetic recording disk device)
IT Controlled atmospheres
Magnetic materials
Sputtering
(in fabrication of magnetic recording medium and magnetic recording disk device)
IT Electronic device fabrication
(of magnetic recording medium and magnetic recording disk device)

IT 7429-90-5, Aluminum, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(NiP coated disk substrate; in fabrication of magnetic recording medium and magnetic recording disk device)
IT 7440-37-1, Argon, processes
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(atm.; in fabrication of magnetic recording medium and magnetic recording disk device)
IT 12035-46-0, Nickel phosphide (NiP)
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(coated aluminum; in fabrication of magnetic recording medium and magnetic recording disk device)
IT 7440-47-3, Chromium, processes 129617-87-4, Chromium 13, cobalt 75, platinum 12 297178-05-3, Carbon 1, chromium 17, cobalt 73, platinum 5, tungsten 4 297178-06-4, Carbon 1, chromium 0-23, cobalt 67-90, platinum 5, tungsten 4 **297178-07-5**, Chromium 17, cobalt 74, niobium 2, platinum 5, tantalum 2 297178-08-6, Chromium 0-13, cobalt 78-91, niobium 2, platinum 5, tantalum 2 **297178-09-7**, Chromium 13-21, cobalt 70-78, niobium 2, platinum 5, tantalum 2 297178-10-0, Carbon 1-6, chromium 13-21, cobalt 52-79, platinum 1-20, tungsten 1-6 **297178-11-1**, Chromium 13-21, cobalt 72-79, niobium 1-6, platinum 1-20, tantalum 1-6
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(in fabrication of magnetic recording medium and magnetic recording disk device)
IT 112336-81-9
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(non-magnetic layer; in fabrication of magnetic recording medium and magnetic recording disk device)
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; JP 60228637 1985 CAPLUS
(2) Anon; JP 63148411 1988
(3) Anon; JP 750008 1995
(4) Anon; JP 750009 1995
(5) Chen; US 5763071 1998 CAPLUS
(6) Inoue; US 4814238 1989
(7) Ohkubo; US 5851656 1998 CAPLUS
(8) Yamaguchi; US 5552217 1996
(9) Zhang; US 5952097 1999 CAPLUS

L9 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:274654 CAPLUS
DN 132:302339
TI Magnetic recording media and magnetic disk apparatus
IN Sato, Kenji; Yoshida, Yuki; Okuyama, Tomoaki
PA Fujitsu Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G11B005-66
ICS H01F010-26; H01F010-30
CC 77-8 (Magnetic Phenomena)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000123345	A2	20000428	JP 1998-298665	19981020
PRAI	JP 1998-298665		19981020		

AB Magnetic recording layers from ferromagnetic substances are formed on nonmagnetic substrates, and antiferromagnetic base layers are formed in contact with the recording layers.
ST magnetic recording media disk app; ferromagnetic elec magnetic recording media
IT Ferromagnetic films
Magnetic disks
Magnetic recording materials
(magnetic recording media and magnetic disk app.)
IT 69020-63-9 264870-62-4 264870-63-5
RL: DEV (Device component use); USES (Uses)
(magnetic recording media and magnetic disk app. contg. antiferromagnetic materials)
IT **264870-64-6**
RL: DEV (Device component use); USES (Uses)
(magnetic recording media and magnetic disk app. contg. ferromagnetic materials)

L9 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1993:522953 CAPLUS
DN 119:122953
TI Cobalt-chromium-platinum alloys for sputtering targets in application of magnetic recording films
IN Kinoshita, Makoto; Ishii, Toshinori; Tamura, Jun; Kishida, Kunio
PA Mitsubishi Materials Corp, Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C23C014-14
ICS C23C014-34
CC 56-4 (Nonferrous Metals and Alloys)
Section cross-reference(s): 77
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05086456	A2	19930406	JP 1991-76575	19910409
PRAI	JP 1991-76575		19910409		

AB The targets useful for coating with high coercive force in magnetic recording app. are manufd. from the Co alloys contg. Cr 5-20, Pt 10-55%, and optionally Ni, Ta, Pd, and/or Nb 0.1-20% each, Zr, Ti, Hf, Al, Si, Mo, W, V, and/or Cu 0.01-7% each, and/or Mg, Ca, La, Ce, and/or Nd 0.005-3% each.
ST sputtering target cobalt alloy; cobalt chromium platinum alloy sputtering; magnetic recording cobalt alloy
IT Recording materials
(cobalt-chromium-platinum alloys, sputtered coating with)
IT Coercive force, magnetic
(of cobalt-chromium-platinum alloys, in magnetic recording)
IT Sputtering
(targets, cobalt-chromium-platinum alloys, in magnetic recording)
IT 148942-09-0 148942-10-3 148942-11-4 148942-12-5 148942-13-6
148942-14-7 148942-15-8 148942-16-9 148942-17-0 148942-18-1
148942-19-2 148942-20-5 148942-21-6 148942-22-7 148942-23-8
148942-24-9 148942-25-0 148942-26-1 148942-27-2 148942-28-3
148942-29-4 148942-30-7 **148994-33-6** 148994-34-7
148994-35-8 **148994-36-9** **148994-37-0** 148994-38-1
149531-05-5
RL: USES (Uses)
(sputtering target, for magnetic recording app.)

=> d l8 1- all
YOU HAVE REQUESTED DATA FROM 24 ANSWERS - CONTINUE? Y/(N):y

L8 ANSWER 1 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2003:633123 CAPLUS
DN 139:158818
TI Design of a magnetic recording medium with improved exchange coupling
IN Bertero, Gerardo; Malhotra, Sudhir; Wachenschwanz, David; Shan, Zhengsheng; Stafford, Donald
PA Komag, Inc., USA
SO U.S. Pat. Appl. Publ., 19 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM B32B009-00
NCL 428692000; 428694000MT; 428694000RE
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 55, 56
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003152805	A1	20030814	US 2002-75123	20020212
	DE 10304865	A1	20030821	DE 2003-10304865	20030206
	JP 2003263715	A2	20030919	JP 2003-31989	20030210
PRAI	US 2002-75123	A	20020212		

AB The invention relates to the design of a magnetic recording medium with improved exchange coupling. The recording medium consists of (i) a substrate; (ii) a lower magnetic layer structure formed over the substrate, where the lower magnetic layer structure exhibits an Ms of >250 emu/cm3; (iii) an intermediate layer consisting of Ru; and (iv) an upper magnetic layer structure formed over the intermediate layer, where the upper magnetic layer structure is antiferromagnetically coupled to the lower magnetic layer structure.
ST magnetic recording medium improved exchange coupling
IT Antiferromagnetic exchange
Magnetic films
Magnetic recording materials
(design of a magnetic recording medium with improved exchange coupling)
IT Boron alloy, nonbase
Carbon alloy, nonbase
Chromium alloy, nonbase
Cobalt alloy, nonbase
Copper alloy, nonbase
Iridium alloy, nonbase
Molybdenum alloy, nonbase
Niobium alloy, nonbase
Palladium alloy, nonbase
Platinum alloy, nonbase
Ruthenium alloy, nonbase
Silicon alloy, nonbase
Tantalum alloy, nonbase
Tantalum alloy, nonbase
Tungsten alloy, nonbase
Vanadium alloy, nonbase
Yttrium alloy, nonbase
RL: TEM (Technical or engineered material use); USES (Uses)
(design of a magnetic recording medium with improved exchange coupling)
IT 7440-18-8, Ruthenium, uses 11068-82-9, Permalloy 11101-28-3 12606-95-0, Sendust 12649-48-8 12781-95-2 39284-68-9 56404-84-3 77088-24-5 91867-19-5 93844-66-7 149344-82-1 **570383-69-6**, Boron 0-10, chromium 5-20, cobalt 54-95, platinum 0-10, tantalum 0-6 (atomic) 570383-71-0, Boron 0-20, chromium 10-30, cobalt 30-82, platinum 8-20 (atomic)
RL: TEM (Technical or engineered material use); USES (Uses)
(design of a magnetic recording medium with improved exchange coupling)

L8 ANSWER 2 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:927036 CAPLUS
DN 138:10785
TI Perpendicular magnetic recording medium, its preparation, and magnetic recording/reading apparatus employing same
IN Shimizu, Kenji; Sakawaki, Akira; Sakai, Hiroshi; Nakamura, Futoshi; Hikosaka, Kazushi
PA Showa Denko K. K., Japan; Toshiba Corp.
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G11B005-667
ICS G11B005-65; G11B005-66; G11B005-738; G11B005-851
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 56
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002352409	A2	20021206	JP 2001-154449	20010523
	US 2003017370	A1	20030123	US 2002-151896	20020522
PRAI	JP 2001-154449	A	20010523		
	US 2001-295819P	P	20010606		

AB The magnetic recording medium comprises, on a nonmagnetic substrate, a soft magnetic undercoat film, a magnetic orientation-controlling film, a perpendicular magnetic film, and a protective; wherein an in-plane magnetization undercoat film made of Cr (alloy) and a in-plane hard magnetization film made of a Co-Cr-Pt-X alloy (X = B, Ta, Cu, Zr, Nb, Re, Ni, Mn, ge, Si, O, N) are arranged between the substrate and the soft magnetic undercoat film. The presence of in-plane magnetization undercoat film prevents generation of noises derived from the hard magnetization film.
ST perpendicular magnetic recording medium inplane magnetization undercoat chromium
IT Magnetic materials
(in-plane hard magnetization film; prepn. of perpendicular magnetic recording medium contg. in-plane magnetization hard film and in-plane magnetization undercoat film)
IT Magnetic memory devices
(prepn. of perpendicular magnetic recording medium contg. in-plane magnetization hard film and in-plane magnetization undercoat film)
IT 476615-96-0, Boron 5, chromium 22, cobalt 61, platinum 12 476615-97-1, Boron 5, chromium 18, cobalt 69, platinum 8 **476615-98-2**, Chromium 21, cobalt 66, platinum 10, tantalum 3 476615-99-3, Boron 3, chromium 20, cobalt 66, copper 3, platinum 8 **476616-00-9**, Chromium 14, cobalt 76, platinum 8, tantalum 2 476616-01-0, Chromium 10, cobalt 78, platinum 10, tantalum 2 476616-02-1, Boron 4, chromium 25, cobalt 59, platinum 12 476616-03-2, Boron 4, chromium 24, cobalt 59, platinum 13
RL: TEM (Technical or engineered material use); USES (Uses)
(in-plane hard magnetization film; prepn. of perpendicular magnetic recording medium contg. in-plane magnetization hard film and in-plane magnetization undercoat film)
IT 7440-47-3, Chromium, uses 265990-32-7, Chromium 94, molybdenum 6 (atomic)
RL: TEM (Technical or engineered material use); USES (Uses)
(in-plane magnetization undercoat film; prepn. of perpendicular magnetic recording medium contg. in-plane magnetization hard film and in-plane magnetization undercoat film)

L8 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:889125 CAPLUS
DN 137:361782
TI Sputtering target shields for improved magnetic properties of a recording

medium
IN Chen, Qixu; Leu, Charles; Shows, Mark Anthony; McLeod, Paul Stephen; Ranjan, Rajiv Yadav
PA Seagate Technology, Inc., USA
SO U.S., 10 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C23C014-32
NCL 204298110
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 76
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6482301	B1	20021119	US 1999-326245	19990604
PRAI US 1998-88330P	P	19980604		

AB A collimator system is disclosed for use in an in-line pass-by sputtering system during the fabrication of recording media to improve the data storage d. and read/write performance characteristics of the media. The collimator system includes a collimator shield and a collimator honeycomb. The shield includes a rectangular tube having a flange and a frame at inner and outer ends, resp. The various components of the shield in part serve to prevent possible contamination of substrates due to target atom accumulation on the chamber walls during the sputtering process. The collimator honeycomb is provided for blocking target atoms from contacting the substrate at low incident angles. The collimator honeycomb is comprised of a plurality of collimators which are identical to each other. In a preferred embodiment, the collimators have a hexagonal cross-section taken from a perspective perpendicular to the substrate. The collimators may also have other geometric shapes. It is also contemplated that more than one collimator honeycomb level be used in alternative embodiments.
ST collimator sputtering target magnetic recording film
IT Collimators
Magnetic disks
Magnetic recording materials
Shields
Sputtering targets
(sputtering target shields for improved magnetic properties of recording medium)
IT 12635-27-7 55014-31-8 107593-02-2 **301853-27-0**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(sputtering target shields for improved magnetic properties of recording medium)
RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Alex; US 5616218 A 1997 CAPLUS
(2) Anon; JP 05-311419 1993
(3) Anon; JP 05-326426 1993 CAPLUS
(4) Bunshah; US 4931158 A 1990 CAPLUS
(5) Demaray; US 5330628 A 1994 CAPLUS
(6) Hollars; US 5683561 A 1997
(7) Hurwitt; US 5223108 A 1993 CAPLUS
(8) Hurwitt; US 5415753 A 1995
(9) Krivokapic; US 5643428 A 1997
(10) Mikalsen; US 4824544 A 1989 CAPLUS
(11) Sawada; US 5804046 A 1998 CAPLUS
(12) Washburn; US 6139695 A 2000 CAPLUS
(13) Yamada; US 5744016 A 1998 CAPLUS

L8 ANSWER 4 OF 24 CAPLUS
AN 2002:770073 CAPLUS

DN 137:287959
TI Magnetic recording medium with dual magnetic layers and high in-plane coercivity
IN Chen, Qixu David; Huang, Lin; Leu, Charles; Ranjan, Rajiv Yadav
PA Seagate Technology, Inc., USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM G11B005-66
ICS G11B005-70
NCL 428694000TM
CC 77-8 (Magnetic Phenomena)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6461750	B1	20021008	US 1999-406816	19990928
	US 2003039863	A1	20030227	US 2002-252708	20020924
PRAI	US 1998-102573P	P	19980930		
	US 1999-406816	A3	19990928		

AB A magnetic recording media is formed with high in-plane coercivity employing dual magnetic layers. The 1st magnetic layer is sputter deposited in a chamber employing a shield such that the min. incident angle of impinging atoms is relatively large, e.g., .gtorsim.26.degree.. Embodiments of the present invention comprise depositing a NiAl seed layer, a Cr or Cr alloy underlayer and a 1st CoCrTa magnetic layer at a thickness .ltorsim.50 .ANG. for inducing the preferred (10.0) crystallog. orientation in the subsequently deposited 2nd magnetic layer, e.g., CoCrPtTa or CoCrPtTaNb having a high Cr content of .apprx.16 to .apprx.21 at.%.

ST cobalt chromium platinum tantalum dual layer recording medium coercivity
IT Coercive force (magnetic)
Magnetic multilayers
Magnetic recording materials
Sputtering
(cobalt-chromium alloy magnetic recording medium with dual magnetic layers and high in-plane coercivity)
IT 7440-47-3P, Chromium, uses 12635-27-7P 77325-66-7P 137850-97-6P 238087-04-2P 467233-21-2P **467233-22-3P**
RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cobalt-chromium alloy magnetic recording medium with dual magnetic layers and high in-plane coercivity)
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Akimoto; IEEE Transactions on Magnetics 1998, V34(4), P1
(2) Alex; US 5616218 A 1997 CAPLUS
(3) Bertero; US 6150015 A 2000 CAPLUS
(4) Bian; US 6077586 A 2000 CAPLUS
(5) Bian; US 6143388 A 2000 CAPLUS
(6) Chen; US 5763071 A 1998 CAPLUS
(7) Futamoto; US 6251532 B1 2001 CAPLUS
(8) Lee; US 5693426 A 1997 CAPLUS
(9) Lee; US 5800931 A 1998 CAPLUS
(10) Lee; IEEE Transactions on Magnetics 1994, V30(6), P3951 CAPLUS
(11) Ohkubo; US 5851656 A 1998 CAPLUS
(12) Peng; IEEE Transactions on Magnetics 1995, V31(6), P2821 CAPLUS
(13) Ross; Journal of Applied Physics:Proceedings of the 41st Annual Conference on Magnetism and Magnetic Materials, Part 2A 1997, V81(8) CAPLUS
(14) Song; US 6150016 A 2000 CAPLUS
(15) Zhang; US 5772857 A 1998 CAPLUS
(16) Zhang; US 6077603 A 2000 CAPLUS

L8 ANSWER 5 OF 24 CAPLUS

AN 2002:630296 CAPLUS
DN 137:149161
TI Magnetic recording disk for hard disk drive.
IN Lai, Tai-Huang; Luo, Yu-Yun; Tung, Jiun-Yan; Liang, Wei-Jeng; Liang, Hung-Huei
PA Trace Storage Technology Corp., Taiwan
SO Taiwan, 19 pp.
CODEN: TWXXA5
DT Patent
LA Chinese
IC ICM G11B005-62
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 57
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI TW 392150	B	20000601	TW 1998-87110336	19980626
PRAI TW 1998-87110336		19980626		

AB The present invention relates to high-coercivity magnetic recording disk used in hard disk drive. The magnetic recording disk comprises a nonmagnetic substrate, a fine grain-structured Ni-Al alloy seed layer (thickness 200-1000 .ANG.) sputtered on the substrate, a Cr-V alloy intermediate layer (thickness 50-1000 .ANG.) sputtered on the seed layer, a Co-Cr-Pt-Ta-Nb alloy magnetic layer (thickness 100-400 .ANG.) sputtered on the intermediate layer, and a carbon protective layer sputtered on the magnetic layer. The nonmagnetic substrate may be made from glass, ceramic, glass ceramic, Al alloy, etc. The Co-Cr-Pt-Ta-Nb alloy magnetic layer-contg. magnetic recording disk has coercivity (Hc) higher than 4000 Oe.

ST magnetic recording disk hard disk drive; coercivity magnetic recording disk hard disk drive; hard magnetic disk coercivity

IT Heating
(IR; magnetic recording disk for hard disk drive)

IT Lubricating oils
(coating; magnetic recording disk for hard disk drive)

IT Coating process
(electroless; magnetic recording disk for hard disk drive)

IT Magnetic disks
(hard; magnetic recording disk for hard disk drive)

IT Coercive force (magnetic)
Magnetic disks
Sputtering
(magnetic recording disk for hard disk drive)

IT Ceramics
Glass ceramics
(substrate; magnetic recording disk for hard disk drive)

IT Glass, uses
RL: DEV (Device component use); USES (Uses)
(substrate; magnetic recording disk for hard disk drive)

IT Aluminum alloy, base
RL: DEV (Device component use); NUU (Other use, unclassified); USES (Uses)
(substrate; magnetic recording disk for hard disk drive)

IT 11104-08-8, Nickel phosphide 12035-46-0, Nickel phosphide (NiP)
RL: TEM (Technical or engineered material use); USES (Uses)
(coating, electroless plated; magnetic recording disk for hard disk drive)

IT 37283-60-6, Chromium alloy, Cr,V
RL: DEV (Device component use); NUU (Other use, unclassified); USES (Uses)
(intermediate layer; magnetic recording disk for hard disk drive)

IT 238087-04-2, Cobalt alloy, Co,Cr,Nb,Pt,Ta **297178-07-5** **444725-28-4**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(magnetic recording disk for hard disk drive)

IT 7440-44-0, Carbon, uses

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(protective coating; magnetic recording disk for hard disk drive)

IT 12635-29-9, Nickel alloy, Ni,Al
RL: DEV (Device component use); USES (Uses)
(seed layer; magnetic recording disk for hard disk drive)

IT 11145-10-1, Aluminum alloy, Al,Mg
RL: DEV (Device component use); NUU (Other use, unclassified); USES (Uses)
(substrate; magnetic recording disk for hard disk drive)

L8 ANSWER 6 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:570654 CAPLUS
DN 137:118451
TI Perpendicular magnetic recording disk medium
IN Hokkyo, Hirotaka; Tsuboi, Shinzo; Tagami, Katsumichi
PA NEC Corporation, Japan
SO U.S., 188 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM G11B005-66
ICS G11B005-77; B32B007-02
NCL 428694000TM
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 56
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6426157	B1	20020730	US 1999-366251	19990803
	JP 3090128	B2	20000918	JP 1998-244060	19980828
	US 2002182445	A1	20021205	US 2002-141446	20020508
PRAI	JP 1998-244060	A	19980828		
	US 1999-366251	A1	19990803		

AB A perpendicular magnetic disk material with reduced demagnetization field due to magnetic poles generated on the film surface and low medium noise in the low recording d. region. The present invention provides a perpendicular magnetic recording medium having a perpendicular magnetization film formed on a substrate, wherein a high perpendicular orientation film having higher perpendicular orientation than that of the perpendicular magnetization film is formed over or/and under the perpendicular magnetization film.

ST magnetic disk sputtering chromium cobalt rare earth platinum

IT Magnetic disks
Sputtering
(perpendicular magnetic recording disk medium)

IT 7440-37-1, Argon, uses
RL: NUU (Other use, unclassified); USES (Uses)
(perpendicular magnetic recording disk medium)

IT 12009-05-1, Barium iron oxide (BaFe18O27) 12014-88-9 12017-67-3 12017-71-9, Co5Y 12017-78-6 12023-91-5, Iron strontium oxide (Fe12SrO19) 12047-11-9, Barium iron oxide (BaFe12O19) 12052-77-6 12214-13-0 12297-66-4 39305-53-8, Cobalt 50, platinum 50 (atomic) 39466-70-1, Iron strontium oxide (Fe18SrO27) 53239-28-4 443347-47-5 443347-48-6
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(perpendicular magnetic recording disk medium)

IT 134783-74-7, Chromium 17, cobalt 80, tantalum 3 (atomic) 224560-79-6, Chromium 19, cobalt 78, tantalum 3 (atomic) **443347-17-9**, Chromium 22, cobalt 74, lanthanum 1, platinum 2, tantalum 1 (atomic) **443347-18-0**, Chromium 21, cobalt 75, lanthanum 1, platinum 2, tantalum 1 (atomic) **443347-19-1**, Chromium 20, cobalt 76, lanthanum 1, platinum 2, tantalum 1 (atomic) **443347-20-4**, Chromium 19, cobalt 77, lanthanum 1, platinum 2, tantalum 1 (atomic)

443347-21-5, Chromium 18, cobalt 78, lanthanum 1, platinum 2, tantalum 1 (atomic) **443347-22-6**, Chromium 20, cobalt 76, lutetium 1, platinum 2, tantalum 1 (atomic) **443347-23-7**, Chromium 19, cobalt 77, lutetium 1, platinum 2, tantalum 1 (atomic) **443347-24-8**, Chromium 18, cobalt 78, lutetium 1, platinum 2, tantalum 1 (atomic) 443347-25-9, Chromium 20, cobalt 76, lanthanum 1, lutetium 1, platinum 2 (atomic) 443347-26-0, Chromium 21, cobalt 75, lanthanum 1, lutetium 1, platinum 2 (atomic) 443347-27-1, Chromium 19, cobalt 77, lanthanum 1, lutetium 1, platinum 2 (atomic) 443347-28-2, Chromium 18, cobalt 78, lanthanum 1, lutetium 1, platinum 2 (atomic) 443347-29-3, Chromium 20, cobalt 76, lanthanum 1, lutetium 1, tantalum 2 (atomic) 443347-30-6, Chromium 22, cobalt 74, lanthanum 1, lutetium 1, tantalum 2 (atomic) 443347-31-7, Chromium 21, cobalt 75, lanthanum 1, lutetium 1, tantalum 2 (atomic) 443347-32-8, Chromium 19, cobalt 77, lanthanum 1, lutetium 1, tantalum 2 (atomic) 443347-33-9, Chromium 18, cobalt 78, lanthanum 1, lutetium 1, tantalum 2 (atomic) 443347-34-0, Chromium 20, cobalt 76, praseodymium 1, strontium 1, tantalum 2 (atomic) 443347-35-1, Chromium 22, cobalt 74, praseodymium 1, strontium 1, tantalum 2 (atomic) 443347-36-2, Chromium 21, cobalt 75, praseodymium 1, strontium 1, tantalum 2 (atomic) 443347-37-3, Chromium 19, cobalt 77, praseodymium 1, strontium 1, tantalum 2 (atomic) 443347-38-4, Chromium 18, cobalt 78, praseodymium 1, strontium 1, tantalum 2 (atomic) 443347-39-5, Chromium 22, cobalt 74, lanthanum 1, lutetium 1, platinum 2 (atomic) 443347-40-8, Chromium 19, cobalt 77, praseodymium 1, sulfur 1, tantalum 2 (atomic) **443347-41-9**, Chromium 22, cobalt 74, lutetium 1, platinum 2, tantalum 1 (atomic) 443347-42-0, Chromium 22, cobalt 74, platinum 2, praseodymium 1, strontium 1 (atomic) 443347-43-1, Chromium 21, cobalt 75, platinum 2, praseodymium 1, strontium 1 (atomic) 443347-44-2, Chromium 20, cobalt 76, platinum 2, praseodymium 1, strontium 1 (atomic) 443347-45-3, Chromium 19, cobalt 77, platinum 2, praseodymium 1, strontium 1 (atomic) 443347-46-4, Chromium 18, cobalt 78, platinum 2, praseodymium 1, strontium 1 (atomic)
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(perpendicular magnetic recording disk medium)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; JP 5891 1983
(2) Anon; JP 59127235 1984 CAPLUS
(3) Anon; JP 59191130 1984
(4) Anon; JP 60239916 1985
(5) Anon; JP 618719 1986
(6) Anon; JP 1173312 1989
(7) Anon; JP 10334440 1998
(8) Anon; JP 11102510 1999
(9) Chen; US 6037052 A 2000
(10) Fukuzawa; US 6146776 A 2000 CAPLUS
(11) Honda; US 5851643 A 1998 CAPLUS
(12) Ichihara; US 6033536 A 2000 CAPLUS
(13) Kanbe; US 6080476 A 2000 CAPLUS
(14) Ouchi; Journal of Magn Soc Japan 1984, V8(1), P17 CAPLUS

L8 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:281325 CAPLUS
DN 137:40593
TI Thermodynamic calculations of the effect of B and Ta on magnetically induced phase separation in Co-Cr-Pt alloys

AU Oikawa, K.; Qin, G. W.; Okamoto, S.; Kitakami, O.; Shimada, Y.; Fukamichi, K.; Ishida, K.
CS National Institute of Advanced Industrial Science and Technology, Sendai, 983-8551, Japan

SO Applied Physics Letters (2002), 80(15), 2704-2706
CODEN: APPLAB; ISSN: 0003-6951

PB American Institute of Physics
DT Journal
LA English
CC 77-1 (Magnetic Phenomena)
Section cross-reference(s): 56
AB To clarify the relation between the magnetically induced phase sepn. and the recording media characteristics, the thermodn. calcns. of Co-Cr-Pt-B and Co-Cr-Pt-Ta systems were carried out by the available binary assessment data and Miedema's semiempirical values. B is segregated to the boundary in a similar manner as Cr, which makes the boundary region paramagnetic. This result is consistent with available data that B weakens the intergranular magnetic coupling and increases the magnetic anisotropy in Co-Cr-Pt recording media. By adding Ta, the Cr content in the paramagnetic phase is also increased, reducing the intergranular magnetic coupling. However, the Ta content in the ferromagnetic phase is higher than in the paramagnetic phase, decreasing the magnetic anisotropy. Accordingly, the thermodn. calcns. successfully explain exptl. magnetic data for Co-Cr-Pt-B and Co-Cr-Pt-Ta recording media.
ST chromium cobalt platinum boron magnetic recording medium phase sepn; tantalum chromium cobalt platinum magnetic recording medium phase sepn
IT Ferromagnetic materials
Magnetic field effects
Magnetic recording materials
Paramagnetic materials
Phase separation
(thermodn. calcns. of the effect of B and Ta on magnetically induced phase sepn. in Co-Cr-Pt magnetic recording media)
IT 436868-27-8 436868-28-9 436868-29-0 436868-30-3 **436868-31-4** **436868-32-5** 436868-33-6 436868-34-7
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(thermodn. calcns. of the effect of B and Ta on magnetically induced phase sepn. in Co-Cr-Pt magnetic recording media)
RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) de Boer, F; Cohesion in Metals 1988
(2) Doerner, M; IEEE Trans Magn 2001, V37, P1502
(3) Dupin, N; J Phase Equilib 1993, V14, P451 CAPLUS
(4) Hasebe, M; J Jpn Inst Met 1982, V46, P577 CAPLUS
(5) Hillert, M; CALPHAD: Comput Coupling Phase Diagrams Thermochem 1978, V2, P227 CAPLUS
(6) Hirayama, Y; IEEE Trans Magn 1996, V32, P3807 CAPLUS
(7) Hono, K; Appl Phys Lett 1993, V62, P2504 CAPLUS
(8) Inaba, N; J Magn Magn Mater 1997, V168, P222 CAPLUS
(9) Ishida, K; Bull Alloy Phase Diagrams 1990, V11, P357 CAPLUS
(10) Iwasaki, S; IEEE Trans Magn 1978, V14, P849
(11) Iwase, T; Jpn J Appl Phys, Part 1 1993, V32, P3823
(12) Kitakami, O; J Magn Magn Mater 1999, V202, P305 CAPLUS
(13) Kubota, Y; J Appl Phys 1998, V84, P6202 CAPLUS
(14) Lee, I; Thin Solid Films 2001, V388, P245 CAPLUS
(15) Liu, Z; CALPHAD: Comput Coupling Phase Diagrams Thermochem 1999, V23, P339 CAPLUS
(16) Oikawa, K; Acta Mater (in press)
(17) Oikawa, K; Appl Phys Lett 2001, V79, P644 CAPLUS
(18) Oikawa, K; J Magn Magn Mater 2001, V236, P220 CAPLUS
(19) Oikawa, K; J Magn Magn Mater 2002, V239, P409 CAPLUS
(20) Oikawa, K; J Magn Soc Jpn 2001, V25, P478 CAPLUS
(21) Paik, C; IEEE Trans Magn 1992, V28, P3084 CAPLUS
(22) Qin, G; J Magn Magn Mater 2001, V234, PL1 CAPLUS
(23) Redlich, O; Ind Eng Chem 1948, V40, P345
(24) Sanchez, J; Phys Rev B 1978, V17, P2926
(25) Sundman, B; CALPHAD: Comput Coupling Phase Diagrams Thermochem 1985, V9, P153 CAPLUS

(26) Weller, D; Annu Rev Mater Sci 2000, V30, P611 CAPLUS

L8 ANSWER 8 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:564048 CAPLUS
DN 135:146124
TI Anisotropic magnetic recording materials and manufacturing materials thereof
IN Hiruma, Takehiko; Suezutsumi, Michinobu; Imagawa, Makoto
PA Asahi Komagu K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G11B005-82
ICS G11B005-851
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 56, 57
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2001209927	A2	20010803	JP 2000-15411	20000125
PRAI JP 2000-15411		20000125		

AB The title manufg. involves (1) forming a stripe texture on a glass substrate, (2) sputtering a Ni-P amorphous film over the texture-pattern on the substrate, (3) keeping the amorphous film-formed substrate in the atm., and (4) sputtering a Cr film, a Co-type magnetic film, and a protection film successively over the amorphous film on the heated substrate. The process provides the magnetic materials on substrates increased anisotropy and coercive force.
ST glass substrate stripe texture anisotropy coercive force magnetic recording
IT Sputtering
(anisotropic magnetic recording materials and manufg. materials thereof)
IT Magnetic recording
(anisotropic; anisotropic magnetic recording materials and manufg. materials thereof)
IT Coercive force (magnetic)
Magnetic anisotropy
(increased; anisotropic magnetic recording materials and manufg. materials thereof)
IT Magnetic materials
(recording materials; anisotropic magnetic recording materials and manufg. materials thereof)
IT Glass substrates
(stripe texture on; anisotropic magnetic recording materials and manufg. materials thereof)
IT 37270-13-6P, nickel 80, phosphorus 20 (atomic)
RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
(amorphous film, sputtering of; anisotropic magnetic recording materials and manufg. materials thereof)
IT **352206-32-7P**
RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
(magnetic film; anisotropic magnetic recording materials and manufg. materials thereof)
IT 92840-02-3P
RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
(sublayer, sputtering; anisotropic magnetic recording materials and manufg. materials thereof)

L8 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:7543 CAPLUS
DN 134:65375
TI High coercivity, high signal-to-noise ratio dual magnetic layer media
IN Chen, Qixu; Song, Xing; Leu, Charles; Ranjan, Rajiv Yadau; Chen, Ga-Lane
PA Seagate Technology LLC, USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM G11B005-66
NCL 428336000
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 56
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6168861	B1	20010102	US 1998-188677	19981110
PRAI US 1997-69536P	P	19971212		

AB A high areal d. magnetic recording medium with high remanent coercivity and high signal-to-noise ratio is formed with dual magnetic layers, the 1st or lower magnetic layer having a higher satn. magnetization than the 2nd or upper magnetic layer. Embodiments include 1st and 2nd magnetic layers contg. Co and Pt, wherein the 1st magnetic layer comprises less Pt than the 2nd, e.g., a 1st magnetic layer of Co-15% Cr-8% Pt-4% Ta and a 2nd magnetic layer of Co-15% Cr-11% Pt-4% Ta.
ST dual layer magnetic recording material; chromium cobalt platinum tantalum magnetic recording
IT Ceramics
Glass ceramics
Lubricants
Magnetic films
Magnetic multilayers
Magnetic recording materials
Passivation
(high coercivity, high signal-to-noise ratio dual magnetic layer media)
IT Glass, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(high coercivity, high signal-to-noise ratio dual magnetic layer media)
IT 11099-20-0 11149-64-7 81705-66-0 142295-96-3 161078-92-8 219874-19-8 **301853-27-0**, Chromium 15, cobalt 73, platinum 8, tantalum 4 314062-59-4, Chromium 14-16, cobalt 71-75, platinum 7.5-8.5, tantalum 3.5-4.5 (atomic) 314062-60-7, Chromium 14-16, cobalt 68-72, platinum 10.5-11.5, tantalum 3.5-4.5 (atomic) 314062-61-8, Chromium 10-20, cobalt 74-89, tantalum 1-6 (atomic)
RL: TEM (Technical or engineered material use); USES (Uses)
(high coercivity, high signal-to-noise ratio dual magnetic layer media)
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; JP 05114128 1993
(2) Chen; US 5763071 1998 CAPLUS
(3) Lal; US 5432012 1995
(4) Lal; US 5432017 1995
(5) Lal; US 6007924 1999 CAPLUS
(6) Miyazaki; US 5558945 1996
(7) Miyazaki; US 5674637 1997 CAPLUS
(8) Renjei; US 5840394 1998 CAPLUS
(9) Zhang; US 5952097 1999 CAPLUS

L8 ANSWER 10 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:806600 CAPLUS
DN 133:343710
TI Substantially isotropic magnetic recording medium prepared with deposited seed layer before depositing the underlayer
IN Song, Xing; Chen, Qixu; Leu, Charles; Ranjan, Rajiv Yadav

PA Seagate Technology, Inc., USA
SO U.S., 16 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM G11B005-66
NCL 428332000
CC 77-8 (Magnetic Phenomena)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6146754	A	20001114	US 1998-145762	19980902
PRAI US 1997-58240P	P	19970908		

AB A high areal d. magnetic recording medium exhibiting high Hc, high SNR, high S* and substantially isotropic magnetic properties is achieved by depositing a thin seedlayer before depositing the underlayer. Embodiments include heating the seedlayer under vacuum in the presence of residual O to induce appropriate cryst. orientation and surface morphol. for nucleation and growth of the underlayer and magnetic layer having substantially isotropic magnetic properties.

ST seed layer magnetic recording; chromium oxide seed magnetic recording

IT Magnetic films
Magnetic recording materials
(substantially isotropic magnetic recording medium prepd. with deposited seed layer before depositing underlayer)

IT Heat treatment
(substantially isotropic magnetic recording medium prepd. with deposited seed layer treated by)

IT Oxidation
(surface; substantially isotropic magnetic recording medium prepd. with deposited seed layer treated by)

IT Chromium alloy, base
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(substantially isotropic magnetic recording medium prepd. with deposited seed layer before depositing underlayer)

IT 1309-48-4, Magnesia, processes 11118-57-3, Chromium oxide
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(seed layer; substantially isotropic magnetic recording medium prepd. with deposited seed layer before depositing underlayer)

IT 303191-86-8P
RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(substantially isotropic magnetic recording medium prepd. with deposited seed layer before depositing underlayer)

IT 7440-47-3, Chromium, processes 51614-60-9 81705-66-0 142295-96-3 161078-92-8 **293767-41-6**, Chromium 15, cobalt 76, platinum 5, tantalum 4
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(substantially isotropic magnetic recording medium prepd. with deposited seed layer before depositing underlayer)

IT 7782-44-7, Oxygen, processes
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(substantially isotropic magnetic recording medium prepd. with deposited seed layer treated by)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Chen; US 5866227 1999 CAPLUS
(2) Doener; US 5302434 1994
(3) Lal; US 5456978 1995 CAPLUS

(4) Lal; US 5569533 1996
(5) Laughlin; IEEE Transactions on Magnetics 1996, V32(5), P3632 CAPLUS
(6) Lee; 41st Annual Conference on Magnetism & Magnetic Materials 1996, P1
(7) Lee; IEEE Transactions on Magnetics 1994, V30(6), P3951 CAPLUS
(8) Lee; IEEE Transactions on Magnetics 1995, V31(6), P2728 CAPLUS
(9) Lee; J Appl Phys 1996, V79(8), P4902 CAPLUS

L8 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:768973 CAPLUS
DN 133:316730
TI Magnetic recording medium with low temperature seed-layer for high signal-to-noise ratio
IN Chen, Qixu; Song, Xing; Leu, Charles; Ranjan, Rajiv
PA Seagate Technology LLC, USA
SO U.S., 10 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM G11B005-66
NCL 428332000
CC 77-8 (Magnetic Phenomena)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6139951	A	20001031	US 1998-188683	19981110
PRAI	US 1997-69574P	P	19971212		

AB A magnetic recording medium exhibiting high remanent coercivity and low noise is produced by depositing a 1st NiAl seed-layer on a nonmagnetic substrate, e.g., glass, ceramic or glass-ceramic material, at a relatively low temp., and subsequently depositing a 2nd NiAl seed-layer on the 1st seed-layer at a relatively higher temp. Embodiments include depositing a 1st NiAl seed-layer at a temp. .ltorsim.120.degree.., e.g., .ltorsim.100.degree.., and depositing a 2nd NiAl seed-layer thereon at a temp. .gtorsim.200.degree.., e.g. .gtorsim.230.degree.. Embodiments also include depositing a Cr-alloy underlayer, CrV, on the 2nd seed-layer.
ST nickel aluminum seed layer chromium alloy recording medium
IT Coercive force (magnetic)
Glass ceramics
Magnetic recording materials
Remanence
(magnetic recording medium with low temp. seed-layer for high signal-to-noise ratio and high remanent coercivity)
IT Glass, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(magnetic recording medium with low temp. seed-layer for high signal-to-noise ratio and high remanent coercivity)
IT 12635-27-7 55014-31-8 161078-92-8 **301853-27-0**
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(magnetic recording medium with low temp. seed-layer for high signal-to-noise ratio and high remanent coercivity)
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Chang; US 5879783 1999 CAPLUS
(2) Chen; US 5846648 1998 CAPLUS
(3) Chen; US 6010795 2000 CAPLUS
(4) Lee, L; IEEE Transactions On Magnetics 1994, V30(6), P3951 CAPLUS
(5) Ross, C; Journal of Applied Physics 1997, V81(8), P4369 CAPLUS
(6) Zhang; US 5858566 1999 CAPLUS

L8 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:716092 CAPLUS
DN 133:275473

TI Fabrication of magnetic recording medium and magnetic recording disk device

IN Okuyama, Chiaki; Sato, Kenji; Yoshida, Yuki; Okamoto, Iwao
PA Fujitsu Ltd., Japan

SO U.S., 20 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM G11B005-66
NCL 428332000
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 56

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6129981	A	20001010	US 1998-187082	19981106
PRAI JP 1998-39259	A	19980220		

AB A magnetic recording medium and a magnetic disk device fabrication is presented. The magnetic recording medium comprising a nonmagnetic substrate having applied thereon, through a chromium-based underlayer, at least one magnetic recording layer consisting of cobalt as a principal component, 14 to 23 at % of chromium, 1 to 20 at % of platinum as well as tungsten and carbon. The magnetic recording medium exhibits reduced noise, an improved resoln. of the reproducing waveforms and an increased S/N ratio.

ST magnetic recording medium disk device fabrication

IT Magnets
(circuits; in fabrication of magnetic recording medium and magnetic recording disk device)

IT Magnetic disks
(fabrication of)

IT Magnetic recording heads
Magnetic recording materials
(fabrication of magnetic recording medium and magnetic recording disk device)

IT Controlled atmospheres
Magnetic materials
Sputtering
(in fabrication of magnetic recording medium and magnetic recording disk device)

IT Electronic device fabrication
(of magnetic recording medium and magnetic recording disk device)

IT 7429-90-5, Aluminum, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(NiP coated disk substrate; in fabrication of magnetic recording medium and magnetic recording disk device)

IT 7440-37-1, Argon, processes
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(atm.; in fabrication of magnetic recording medium and magnetic recording disk device)

IT 12035-46-0, Nickel phosphide (NiP)
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(coated aluminum; in fabrication of magnetic recording medium and magnetic recording disk device)

IT 7440-47-3, Chromium, processes 129617-87-4, Chromium 13, cobalt 75, platinum 12 297178-05-3, Carbon 1, chromium 17, cobalt 73, platinum 5, tungsten 4 297178-06-4, Carbon 1, chromium 0-23, cobalt 67-90, platinum 5, tungsten 4 **297178-07-5**, Chromium 17, cobalt 74, niobium 2, platinum 5, tantalum 2 297178-08-6, Chromium 0-13, cobalt 78-91, niobium 2, platinum 5, tantalum 2 **297178-09-7**, Chromium 13-21, cobalt 70-78, niobium 2, platinum 5, tantalum 2 297178-10-0, Carbon 1-6,

chromium 13-21, cobalt 52-79, platinum 1-20, tungsten 1-6
297178-11-1, Chromium 13-21, cobalt 72-79, niobium 1-6, platinum 1-20, tantalum 1-6
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(in fabrication of magnetic recording medium and magnetic recording disk device)
IT 112336-81-9
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(non-magnetic layer; in fabrication of magnetic recording medium and magnetic recording disk device)
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; JP 60228637 1985 CAPLUS
(2) Anon; JP 63148411 1988
(3) Anon; JP 750008 1995
(4) Anon; JP 750009 1995
(5) Chen; US 5763071 1998 CAPLUS
(6) Inoue; US 4814238 1989
(7) Ohkubo; US 5851656 1998 CAPLUS
(8) Yamaguchi; US 5552217 1996
(9) Zhang; US 5952097 1999 CAPLUS

L8 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:687916 CAPLUS
DN 133:246419
TI Magnetic data-storage sputtering targets and methods for preparation
IN Bartholomeusz, Michael; Tsai, Michael
PA Heraeus, Inc., USA
SO U.S., 35 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM H01F001-14
NCL 148312000
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 56
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6123783	A	20000926	US 1997-946360	19971007
	US 6432223	B1	20020813	US 2000-546015	20000410
PRAI	US 1997-38031P	P	19970206		
	US 1997-946360	A3	19971007		

AB A method for making a magnetic data storage target includes warm-rolling a magnetic alloy sheet at a temp. of .ltorsim.1200.degree. F., optimally followed by annealing. The method results in increased pass-through-flux (PTF) and improved performance in magnetron sputtering applications.
ST magnetic recording sputtering target rolling annealing; alloy magnetic recording sputtering target rolling annealing; metal magnetic recording sputtering target rolling annealing
IT Magnetic recording materials
Magnetron sputtering
Sputtering targets
(magnetic data-storage sputtering targets and methods for prepn.)
IT Annealing
Cold rolling
(magnetic data-storage sputtering targets and methods for prepn. using)
IT Alloys, processes
Metals, processes
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(magnetic; magnetic data-storage sputtering targets and methods for

prepn.)
IT Rolling (metals)
(warm; magnetic data-storage sputtering targets and methods for prepn. using)
IT Cobalt alloy, base
Nickel alloy, base
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(magnetic data-storage sputtering targets and methods for prepn.)
IT 7440-02-0, Nickel, processes 7440-48-4, Cobalt, processes 159455-25-1, Chromium 10, cobalt 86, tantalum 4 (atomic) 228254-68-0, Chromium 12, cobalt 74, nickel 10, tantalum 4 (atomic) 256455-58-0, Chromium 15, cobalt 75, platinum 6, tantalum 4 (atomic) 293741-83-0, Chromium 16, cobalt 73, platinum 11 (atomic) 293741-84-1, Boron 6, chromium 20, cobalt 64, platinum 10 (atomic) 293741-85-2, Chromium 0-40, cobalt 0-100, nickel 0-100, tantalum 0-8 (atomic) **293741-86-3**, Chromium 0-40, cobalt 0-100, nickel 0-100, platinum 0-30, tantalum 0-8 (atomic) 293741-87-4, Boron 0-30, chromium 0-40, cobalt 0-100, nickel 0-100, tantalum 0-8 (atomic) 293741-88-5, Chromium 0-40, cobalt 0-100, nickel 0-100, silicon 0-30, tantalum 0-8 (atomic) 293741-89-6, Chromium 0-40, cobalt 0-100, nickel 0-100, tantalum 0-8, zirconium 0-30 (atomic) 293741-90-9, Chromium 0-40, cobalt 0-100, iron 0-30, nickel 0-100, tantalum 0-8 (atomic) 293741-91-0, Chromium 0-40, cobalt 0-100, nickel 0-100, tantalum 0-8, tungsten 0-30 (atomic) 293741-92-1, Chromium 0-40, cobalt 0-100, molybdenum 0-30, nickel 0-100, tantalum 0-8 (atomic) 293741-93-2, Chromium 0-40, cobalt 0-100, nickel 0-100, tantalum 0-8, vanadium 0-30 (atomic) 293741-94-3, Chromium 0-40, cobalt 0-100, nickel 0-100, niobium 0-30, tantalum 0-8 (atomic) 293741-95-4, Chromium 0-40, cobalt 0-100, hafnium 0-30, nickel 0-100, tantalum 0-8 (atomic) 293741-96-5, Chromium 0-40, cobalt 0-100, nickel 0-100, tantalum 0-8, titanium 0-30 (atomic) 293741-97-6, Chromium 0-40, cobalt 0-100, nickel 0-100, samarium 0-30, tantalum 0-8 (atomic)
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(magnetic data-storage sputtering targets and methods for prepn.)
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; JP 1100219 1989
(2) Chan, L; Journal of Magnetism and Magnetic Materials 1989, V79, P95 CAPLUS
(3) Inoue; US 5500057 1996 CAPLUS
(4) Taniguchi; US 5334267 1994 CAPLUS
(5) Weigert, M; Materials Science and Engineering 1991, VA139, P359 CAPLUS

L8 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:491921 CAPLUS
DN 133:243138
TI Self-affine nature of thin film surface
AU Li, J. M.; Lu, L.; Su, Y.; Lai, M. O.
CS Department of Mechanical and Production Engineering, National University of Singapore, Singapore
SO Applied Surface Science (2000), 161(1-2), 187-193
CODEN: ASUSEE; ISSN: 0169-4332
PB Elsevier Science B.V.
DT Journal
LA English
CC 66-3 (Surface Chemistry and Colloids)
Section cross-reference(s): 77
AB Variation-correlation function (VCF), a fractal model for quant. anal. on 3-dimensional surface, was applied to the description of Co-based thin film surfaces imaged by at. force microscope (AFM). The results of 2 group expts. on the thin films have implied that the change in fractal dimension Dcor is in accordance with that in surface energy Esv of the

thin films but height roughness Ra and root-mean-square are not. A theor. equation was developed to demonstrate the relation between fractal dimension Dcor and surface energy Esv. This equation shows that Dcor can be interpreted as a parameter of surface energy in thin film growth, and thus the thin film surfaces have fractal nature. This equation also successfully explains the phenomenon of fractal dimension decrease for the thin films during annealing. VCF method provides a reasonable parameter for quant. description of irregularity of thin film surfaces.

ST self affinity film variation correlation function; magnetic film surface energy fractal

IT Magnetic films
(application of variation-correlation function to description of Co-based magnetic film surfaces imaged by AFM to study self-affine nature of thin film surface)

IT Films
Fractals
Surface energy
(relation between surface energy and fractal parameter of thin film using variation-correlation function)

IT **293767-41-6**
RL: PRP (Properties)
(application of variation-correlation function to description of Co-based magnetic film surfaces imaged by AFM to study self-affine nature of thin film surface)

IT 7631-86-9, Silica, properties 92839-06-0
RL: PRP (Properties)
(application of variation-correlation function to description of CoCrPt-SiO2 magnetic film surfaces imaged by AFM to study self-affine nature of thin film surface)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Digital Instrument; Reference Manual for Nanoscope 3 1996
(2) Dubuc, B; Phys Rev A 1989, V39, P1500
(3) Family, F; Dynamics of Fractal Surfaces 1991
(4) Family, F; J Phys A: Math Gen 1985, V18, P75
(5) Jeffries, J; Phys Rev Lett 1996, V76, P4931 CAPLUS
(6) Krim, J; Int J Mod Phys B 1995, V9, P599 CAPLUS
(7) Li, J; J Appl Phys 1999, V86, P2526 CAPLUS
(8) Messier, R; J Appl Phys 1982, V54, P6220
(9) Movchan, B; Phys Met Metallogr 1969, V28, P83
(10) Palasantzas, G; Phys Rev Lett 1994, V73, P3564 CAPLUS
(11) Porter, D; Phase Transformation in Metals and Alloys 1995
(12) Yang, H; Diffraction from Rough Surface and Dynamic Growth Fronts 1993
(13) Yang, H; Phys Rev Lett 1994, V73, P2348 CAPLUS
(14) Yehoda, J; Appl Surf Sci 1985, V22/23, P590

L8 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:274654 CAPLUS

DN 132:302339

TI Magnetic recording media and magnetic disk apparatus

IN Sato, Kenji; Yoshida, Yuki; Okuyama, Tomoaki

PA Fujitsu Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G11B005-66
ICS H01F010-26; H01F010-30

CC 77-8 (Magnetic Phenomena)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000123345	A2	20000428	JP 1998-298665	19981020
PRAI	JP 1998-298665		19981020		

AB Magnetic recording layers from ferromagnetic substances are formed on nonmagnetic substrates, and antiferromagnetic base layers are formed in contact with the recording layers.

ST magnetic recording media disk app; ferromagnetic elec magnetic recording media

IT Ferromagnetic films
Magnetic disks
Magnetic recording materials
(magnetic recording media and magnetic disk app.)

IT 69020-63-9 264870-62-4 264870-63-5
RL: DEV (Device component use); USES (Uses)
(magnetic recording media and magnetic disk app. contg. antiferromagnetic materials)

IT **264870-64-6**
RL: DEV (Device component use); USES (Uses)
(magnetic recording media and magnetic disk app. contg. ferromagnetic materials)

L8 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:260977 CAPLUS

DN 130:319916

TI Magnetic recording medium, magnetic cobalt alloy film, and sputtering target

IN Sakawaki, Akira; Kanazawa, Hiroshi; Ohnami, Kazunori; Sakai, Hiroshi

PA Showa Denko K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01F010-16
ICS G11B005-66

CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 56, 75

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 11111524	A2	19990423	JP 1997-267470	19970930
PRAI JP 1997-267470		19970930		

AB The alloy film contains Cr 10-26, Pt 1-16, Ta 1-7, Zr 0.5-4 at.%, and balance Co. The recording medium having the alloy film is also claimed. The recording medium may have a nonmagnetic underlayer contg. 5-60 at.% W and balance Cr. The sputtering target comprises a sintered material contg. Cr 10-26, Pt 1-16, Ta 1-7, Zr 0.5-4 at.%, and balance Co. The film shows high coercive force and low noise.

ST cobalt alloy film magnetic recording medium; sputtering target cobalt alloy magnetic film; chromium tungsten underlayer magnetic recording medium

IT Magnetic disks
Magnetic recording materials
Sputtering targets
(cobalt alloy film with high coercive force for magnetic recording medium and sputtering target)

IT 223609-69-6, Chromium 18, cobalt 69, platinum 9, tantalum 2, zirconium 2 (atomic) 223609-70-9, Chromium 18, cobalt 67, platinum 9, tantalum 5, zirconium 1 (atomic) 223609-71-0, Chromium 18, cobalt 75, platinum 9, tantalum 1, zirconium 3 (atomic)
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(cobalt alloy film with high coercive force for magnetic recording medium and sputtering target)

IT **223609-72-1 223609-73-2**
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(cobalt alloy film with high coercive force for magnetic recording medium and sputtering target)

IT 124798-68-1, Chromium 85, molybdenum 15 (atomic) 174321-15-4, Chromium 85, titanium 15 (atomic) 223609-74-3, Chromium 85, tungsten 15 (atomic) 223609-75-4, Chromium 40-95, tungsten 5-60 (atomic)
RL: DEV (Device component use); USES (Uses)
(underlayer; cobalt alloy film with high coercive force for magnetic recording medium and sputtering target)

L8 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:398633 CAPLUS
DN 129:130319
TI Magnetic recording media with high magnetic coercive force and low noise and their manufacture by sputtering
IN Moroishi, Keiji; Tomiyasu, Hiroshi; Watanabe, Tsuyoshi
PA Hoya Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G11B005-66
ICS C23C014-14; G11B005-85; H01F010-16; H01F041-18
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 56
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 10162336	A2	19980619	JP 1996-313417	19961125
PRAI JP 1996-313417		19961125		

AB Title media involve glass substrates and successively laminated layers of (A) Al-based 1st base layers, (B) Cr-based 2nd base layers, (C) the 3rd base layers comprising Mo, Zr, B, Si, Zn, Ti, W, V, Ta, and/or Al and Cr, (D) magnetic layers of Co alloys contg. Cr, Pt, and Ta, and (E) protective layers (preferably C). The grain size in B, C, and D is 50-300 .ANG.. Preferably, nonmagnetic spacer layers may be inserted in plural magnetic layers. The sputtering is carried out at inert-gas pressure 4-15 mTorr for A and for B, and at 0.5-6 mTorr for magnetic layers represented by Co100-x-y-zCrxPtyTaz (x = 5-20; y = 3-16; z = 1-7 at.%).

ST magnetic recording medium base layer structure; aluminum chromium base layer magnetic recording; cobalt chromium platinum tantalum magnetic recording; magnetron sputtering pressure magnetic recording medium; grain size base film magnetic recording

IT Aluminosilicate glasses
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(lithium sodium zirconium aluminosilicate, substrates; manuf. of magnetic recording media including laminated base layers and Co alloy magnetic layers)

IT Magnetic recording materials
Magnetron sputtering
(manuf. of magnetic recording media including laminated base layers and Co alloy magnetic layers)

IT 7429-90-5P, Aluminum, uses 7440-47-3P, Chromium, uses 39314-47-1P 51614-60-9P 59124-10-6P 141201-23-2P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(base layers; manuf. of magnetic recording media including laminated base layers and Co alloy magnetic layers)

IT 210180-78-2P, Chromium 13, cobalt 80, platinum 6, tantalum 1 (atomic)
210180-80-6P, Chromium 13, cobalt 74, platinum 6, tantalum 4 (atomic)
210180-82-8P, Chromium 14, cobalt 75, platinum 9, tantalum 2 (atomic)
210180-84-0P, Chromium 13, cobalt 68, platinum 11, tantalum 3 (atomic)
210180-86-2P, Chromium 8, cobalt 83, platinum 6, tantalum 3 (atomic)
210180-88-4P, Chromium 15, cobalt 76, platinum 6, tantalum 3 (atomic)

210180-90-8P, Chromium 13, cobalt 73, platinum 6, tantalum 3 (atomic)
210180-92-0P, Chromium 5-20, cobalt bal., platinum 3-16, tantalum 1-7 (atomic)
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(magnetic layers; manuf. of magnetic recording media including laminated base layers and Co alloy magnetic layers)

IT 7440-44-0, Carbon, uses
RL: DEV (Device component use); USES (Uses)
(protective layers; manuf. of magnetic recording media including laminated base layers and Co alloy magnetic layers)

IT 1313-59-3, Sodium oxide, processes 1314-23-4, Zirconia, processes 1344-28-1, Alumina, processes 7631-86-9, Silica, processes 12057-24-8, Lithia, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(substrates; manuf. of magnetic recording media including laminated base layers and Co alloy magnetic layers)

L8 ANSWER 18 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1997:732531 CAPLUS
DN 128:9677
TI Magnetic recording medium and disk apparatus
IN Okuyama, Tomoaki; Sato, Kenji; Okamoto, Iwao; Shinohara, Masayoshi
PA Fujitsu Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 22 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G11B005-66
ICS G11B005-02; G11B005-39; G11B005-85; H01F010-16
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 56
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09293227	A2	19971111	JP 1996-107678	19960426
	US 6071607	A	20000606	US 1997-797685	19970131
PRAI	JP 1996-107678		19960426		

AB A magnetic recording medium comprises a nonmagnetic support successively laminated with a nonmagnetic metal backing layer contg. Cr and optionally Mo as main components, and a magnetic recording film contg. Co, Cr, Ta, and/or Pt as main components. A magnetic recording app. comprise the claimed magnetic recording medium and a magnetoresistive head. The recording medium enables high-d. recording and shows high coercive force, low noises, and high S/N ratio.

ST magnetic recording medium alloy; cobalt alloy magnetic recording medium; chromium alloy magnetic recording medium; tantalum alloy magnetic recording medium; platinum alloy magnetic recording medium

IT Magnetic memory devices
(magnetic recording app. using magnetic recording medium made of transition metal alloy)

IT 184221-26-9, Chromium 17, cobalt 74, platinum 5, tantalum 4 (atomic)
198894-89-2, Chromium 15, cobalt 77, platinum 4, tantalum 4 (atomic)
198894-91-6, Chromium 17, cobalt 74, niobium 2, platinum 5, tantalum 2 (atomic) 198894-93-8, Chromium 17, cobalt 74, niobium 4, platinum 5 (atomic) **198894-95-0** 198894-97-2 198894-99-4
198895-01-1
RL: DEV (Device component use); USES (Uses)
(magnetic recording layer; magnetic recording app. using magnetic recording medium made of transition metal alloy)

IT 7440-47-3, Chromium, uses 37373-03-8, Chromium 80, molybdenum 20 (atomic) 85265-02-7, Chromium 80-90, molybdenum 10-20 (atomic)
146077-79-4, Chromium 90, molybdenum 10 (atomic) 198895-03-3, Chromium

70-90, molybdenum 10-30 (atomic)
RL: DEV (Device component use); USES (Uses)
(nonmagnetic backing layer; magnetic recording app. using magnetic recording medium made of transition metal alloy)

L8 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1996:212161 CAPLUS
DN 124:305319
TI Metal film magnetic recording material
IN Yo, Kyoha; Akita, Ken; Maeda, Makoto; Okumura, Yoshinobu
PA Kubota Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H01F010-16
ICS G11B005-66
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 56
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 08031638	A2	19960202	JP 1994-164122	19940715
PRAI JP 1994-164122		19940715		

AB The material consists of a nonmagnetic support successively coated with an underlayer, a Co alloy magnetic layer contg. Cr 6-20, Ta .ltoreq.9, and Cu 0.5-7 at.%, and a protective layer. The material may contain .ltoreq.20 at.% Pt and .ltoreq.8 at.% B. The material shows high coercive force.
ST recording magnetic cobalt alloy
IT Recording materials
(magnetic, magnetic recording material having copper-contg. cobalt alloy magnetic layer with high coercive force)
IT 175785-17-8 175785-18-9 175785-19-0 175863-41-9 **175863-42-0** **175863-43-1**
RL: DEV (Device component use); USES (Uses)
(magnetic recording material having copper-contg. cobalt alloy magnetic layer with high coercive force)
IT 175785-16-7
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(magnetic recording material having copper-contg. cobalt alloy magnetic layer with high coercive force)
IT 7440-50-8, Copper, uses
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(microalloying element; magnetic recording material having copper-contg. cobalt alloy magnetic layer with high coercive force)
IT 7440-44-0, Carbon, uses
RL: DEV (Device component use); USES (Uses)
(protective layer; magnetic recording material having copper-contg. cobalt alloy magnetic layer with high coercive force)
IT 7429-90-5, Aluminum, uses 11149-64-7
RL: DEV (Device component use); USES (Uses)
(substrate; magnetic recording material having copper-contg. cobalt alloy magnetic layer with high coercive force)
IT 7440-47-3, Chromium, uses
RL: DEV (Device component use); USES (Uses)
(underlayer; magnetic recording material having copper-contg. cobalt alloy magnetic layer with high coercive force)

L8 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1995:774742 CAPLUS
DN 123:184164
TI Cobalt-based alloy target for magnetron sputtering apparatus

IN Schlott, Martin; Weigert, Martin; Gehman, Bruce; Teng, Kwei
PA Leybold Materials GmbH, Germany
SO Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DT Patent
LA German
IC ICM C23C014-34
ICS G11B005-64; C22C019-00; C22F001-00
CC 75-1 (Crystallography and Liquid Crystals)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 659901	A1	19950628	EP 1994-112342	19940808
	EP 659901	B1	19980415		
	R: DE, FR, GB, IE				
	DE 4410114	A1	19950622	DE 1994-4410114	19940324
	GB 2285269	A1	19950705	GB 1994-22161	19941103
	GB 2285269	B2	19970611		
	US 5728279	A	19980317	US 1994-356109	19941215
	JP 08027570	A2	19960130	JP 1994-334937	19941220
PRAI	DE 1993-4343440		19931220		
	DE 1994-4410114		19940324		

AB The target comprises an alloy of the general formula Co1-x-yMxRy, where M = Cr, Pt, Ni, Pd, and/or other similar transition metal; 0 .ltoreq. x .ltoreq. 0.3; R = Ta, Mo, W, B, Hf, Nb, V, and/or other metals which tend to form intermetallic phases; and 0.015 .ltoreq. y .ltoreq. 0.20, has a strúcture of predominantly hexagonal Co mixed crystals and optionally R-contg. intermetallic phases, and has .gtoreq.1 of the following characteristics: (a) the grain boundaries, sub-grain boundaries, twin boundaries, or slip bands of the Co mixed crystals forming the matrix are decorated with the elements forming the intermetallic phases; (b) x-ray diffraction patterns of the target show reflections of an intermetallic phase which is essentially absent in the cast state and is formed during annealing in a temp. range below the solidus temp. by a solid-state reaction.

ST cobalt alloy target magnetron sputtering app
IT Sputtering
(app., cobalt-based alloy target for magnetron sputtering app.)
IT Electric discharge devices
(sputtering, cobalt-based alloy target for magnetron sputtering app.)
IT Cobalt alloy, base
RL: DEV (Device component use); USES (Uses)
(cobalt-based alloy target for magnetron sputtering app.)
IT 146279-48-3, Chromium 10, cobalt 84, tantalum 6 (atomic) 149321-34-6, Chromium 10.5, cobalt 85.5, tantalum 4 (atomic) 167309-08-2 167309-09-3 167469-90-1 **167469-91-2**
RL: DEV (Device component use); USES (Uses)
(magnetron sputtering target from)

L8 ANSWER 21 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1995:682756 CAPLUS
DN 123:63362
TI Alloys and dispersion composites for coating resistant to hot corrosion and oxidation in gas-turbine service
IN Bettridge, David Frederick; Taylor, Thomas Alan; Tucker, Robert Clark, Jr.
PA Rolls-Royce PLC, UK; Praxair Inc.
SO Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C23C004-06
ICS C23C030-00; C23C004-18
CC 56-3 (Nonferrous Metals and Alloys)
Section cross-reference(s): 57

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 652299	A1	19950510	EP 1994-308035	19941101
	EP 652299	B1	19961227		
	R: AT, CH, DE, FR, GB, IT, LI, SE				
	US 5455119	A	19951003	US 1993-148460	19931108
	AT 146825	E	19970115	AT 1994-308035	19941101
	CA 2135233	AA	19950509	CA 1994-2135233	19941107
	CA 2135233	C	19980714		
	BR 9404361	A	19950704	BR 1994-4361	19941107
	CN 1105396	A	19950719	CN 1994-118165	19941107
	CN 1055512	B	20000816		
	JP 07252674	A2	19951003	JP 1994-295973	19941107
	JP 2920076	B2	19990719		
PRAI	US 1993-148460	A	19931108		

AB The MCrAlY-type alloys suitable for spray coating (as well as for composites with oxide dispersion) contain M (as Fe, Co, and/or Ni) nominally at 19-83, Cr 10-50, Al 4-14, Y (and optionally Hf) 0.1-3, and optionally addnl. Ta, Re, and/or Pt at 3-14 wt.%. The alloys are preferably used as composite with an oxide dispersion (esp. Al2O3) at 5-20 vol.%, and are suitable for coating of superalloy parts operating in high-temp. oxidizing environments. The alloy or composite layer is optionally coated with a top layer of ZrO2 or Al and/or Cr, and is suitable for thermal barrier service. The typical alloy for powder-spray coating 6 mils thick on Mar-M-002 superalloy for gas turbine service contains Co 32, Ni 32, Cr 21, Al 8, Y 0.5, and Pt 6 wt.%.

ST cobalt chromium aluminum yttrium alloy coating; nickel chromium aluminum alloy coating; turbine coating chromium aluminum alloy; oxide composite chromium alloy coating; thermal barrier chromium alloy composite

IT Turbines
(coatings for; alloy composites with oxide dispersion for coating resistant to hot corrosion and oxidn. in gas-turbine service)

IT Aluminizing
Chromizing
(coatings with; alloy composites with oxide dispersion for coating resistant to hot corrosion and oxidn. in gas-turbine service)

IT Coating materials
(composites; alloy composites with oxide dispersion for coating resistant to hot corrosion and oxidn. in gas-turbine service)

IT Alloys, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(thermal barriers on; alloy composites with oxide dispersion for coating as thermal barrier on superalloy parts in gas-turbine service)

IT 7429-90-5, Aluminum, uses 7439-89-6, Iron, uses 7440-02-0, Nickel, uses 7440-06-4, Platinum, uses 7440-15-5, Rhenium, uses 7440-25-7, Tantalum, uses 7440-47-3, Chromium, uses 7440-48-4, Cobalt, uses 7440-58-6, Hafnium, uses 7440-65-5, Yttrium, uses
RL: MOA (Modifier or additive use); USES (Uses)
(alloys contg.; alloys and dispersion composites for coating resistant to hot corrosion and oxidn. in gas-turbine service)

IT 61048-41-7 61048-42-8
RL: MOA (Modifier or additive use); USES (Uses)
(coatings; alloy composites with oxide dispersion for coatings resistant to hot corrosion and oxidn. in gas-turbine service)

IT 165047-03-0 165047-04-1 165047-05-2 165047-06-3 165047-07-4 165047-08-5 165047-09-6 165047-10-9 165047-11-0 165047-12-1 165047-13-2 165047-14-3 165047-15-4 **165047-16-5** 165102-69-2 165102-70-5 165102-71-6 165102-72-7 165102-73-8 165102-74-9 165102-75-0 165102-76-1 **165102-77-2**
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings; alloy composites with oxide dispersion for coatings resistant to hot corrosion and oxidn. in gas-turbine service)

IT 1314-20-1, Thoria, uses 1314-23-4, Zirconia, uses 1314-36-9, Yttria,

uses 1344-28-1, Alumina, uses 12055-23-1, Hafnia
RL: MOA (Modifier or additive use); USES (Uses)
(dispersed; alloy composites with oxide dispersion for coatings resistant to hot corrosion and oxidn. in gas-turbine service)

L8 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1994:643931 CAPLUS
DN 121:243931
TI Thin-film magnetic recording medium with a composition gradient
IN Lal, Brij B.; Eltoukhy, Atef H.
PA HMT Technology Corp., USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM B32B005-14
ICS H01F001-00
NCL 428610000
CC 77-8 (Magnetic Phenomena)
FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5324593	A	19940628	US 1992-837855	19920218
	US 5356522	A	19941018	US 1992-995879	19921223
	US 5366607	A	19941122	US 1992-995688	19921223
PRAI	US 1991-740436		19910805		
	US 1992-837855		19920218		
	US 1992-964745		19921022		

AB A magnetic recording disk has a magnetic film formed of lower and upper sublayers. The 2 sublayers are characterized by lower coercivity, smaller grains, and more isolated grains in the lower sublayer, and higher coercivity and larger grains in the upper sublayer. In 1 embodiment, the sublayers are characterized by an increasing magnetic remanence on progressing from the outer to the inner diam. of the disk, due to a compn. gradient.
ST magnetic recording thin film medium; compn gradient magnetic recording medium; remanence gradient magnetic recording medium
IT Recording materials
(magnetic, thin-film, having compn. gradient)
IT 158318-79-7 **158318-80-0**
RL: USES (Uses)
(magnetic recording medium contg. films of)

L8 ANSWER 23 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1993:522953 CAPLUS
DN 119:122953
TI Cobalt-chromium-platinum alloys for sputtering targets in application of magnetic recording films
IN Kinoshita, Makoto; Ishii, Toshinori; Tamura, Jun; Kishida, Kunio
PA Mitsubishi Materials Corp, Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C23C014-14
ICS C23C014-34
CC 56-4 (Nonferrous Metals and Alloys)
Section cross-reference(s): 77
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05086456	A2	19930406	JP 1991-76575	19910409
PRAI	JP 1991-76575		19910409		

AB The targets useful for coating with high coercive force in magnetic

recording app. are manufd. from the Co alloys contg. Cr 5-20, Pt 10-55%, and optionally Ni, Ta, Pd, and/or Nb 0.1-20% each, Zr, Ti, Hf, Al, Si, Mo, W, V, and/or Cu 0.01-7% each, and/or Mg, Ca, La, Ce, and/or Nd 0.005-3% each.

ST sputtering target cobalt alloy; cobalt chromium platinum alloy sputtering; magnetic recording cobalt alloy

IT Recording materials
(cobalt-chromium-platinum alloys, sputtered coating with)

IT Coercive force, magnetic
(of cobalt-chromium-platinum alloys, in magnetic recording)

IT Sputtering
(targets, cobalt-chromium-platinum alloys, in magnetic recording)

IT 148942-09-0 148942-10-3 148942-11-4 148942-12-5 148942-13-6
148942-14-7 148942-15-8 148942-16-9 148942-17-0 148942-18-1
148942-19-2 148942-20-5 148942-21-6 148942-22-7 148942-23-8
148942-24-9 148942-25-0 148942-26-1 148942-27-2 148942-28-3
148942-29-4 148942-30-7 **148994-33-6** 148994-34-7
148994-35-8 **148994-36-9** **148994-37-0** 148994-38-1
149531-05-5
RL: USES (Uses)
(sputtering target, for magnetic recording app.)

L8 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1992:97998 CAPLUS
DN 116:97998
TI High-coercivity thin-film recording medium
IN Lal, Brij B.; Eltoukhy, Atef H.
PA HMT Technology Corp., USA
SO U.S., 19 pp. Cont.-in-part of U.S. Ser. No. 567,598.
CODEN: USXXAM
DT Patent
LA English
IC ICM B32B015-01
NCL 428611000
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 56
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5049451	A	19910917	US 1990-626193	19901212
	US 5057200	A	19911015	US 1991-669888	19910314
PRAI	US 1990-567598		19900815		

AB The medium comprises a sputtered Cr underlayer, preferably 300-1000 .ANG. thick, and a sputtered magnetic layer, preferably 200-800 .ANG. thick, from an alloy of the compn. Co 70-80, Cr 10-20, Pt 3-20, and Ta 2-10 at.%. The medium has high coercivity, signal resoln. and amplitude, and loop squareness, and low bit shift.

ST high coercivity magnetic recording medium; chromium underlayer magnetic recording medium; cobalt alloy magnetic recording medium; platinum tantalum chromium cobalt magnetic recording

IT Recording materials
(magnetic, cobalt-chromium-platinum-tantalum alloy sputtered film, on chromium underlayer)

IT **139104-76-0**
RL: USES (Uses)
(magnetic recording medium contg. sputtered film of, with chromium underlayer)

IT 7440-47-3, Chromium, uses
RL: USES (Uses)
(underlayer from, in magnetic recording medium)

=>